AF 3743

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Attorney Docket: COO-1CPA2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	William Elkins
Serial No.:	Second CPA of 09/127,256
Filed:	February 9, 2000 (original filed July 31, 1998)
For:	**Compliant Heat Exchange Panel**
Art Unit:	3743
Examiner:	Leonard R. Leo

ASSISTANT COMMISSIONER FOR PATENTS
Washington, DC 20231

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Signed: L. M. B

APPEAL BRIEF

Real party in interest

The real party in interest is Cool Systems, Inc., a corporation of the State of California having a business address at 918 Parker Street, Suite G, Berkeley, California. Cool Systems, Inc. was originally named Orisa Technologies Corporation and had an office at 600 Hobart Street, Menlo Park, California. An assignment to Orisa of the entire interest of the inventor, William Elkins, is recorded on Reel 9370, Frame 0087.

Related appeals and interferences

Neither the applicant nor the assignee are involved directly or indirectly with any related appeal or interference.

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Status of Claims

Claims 1, 3-6, 8-10, 12-20, and 22-24 stand rejected under 35 U.S.C. 103(a), the rejection of which is appealed. Claims 2, 7, 11 and 21 have been canceled.

Status of Amendments

No amendment was filed after the final rejection. It should be noted that this final rejection is the first action on the second CPA filed in this case.

Summary of Invention

The present invention relates to a thin and flexible splint (heat exchange panel 300, Figs. 3A, 3B - specification page 7, line 5) component of a temperature control unit of the type which is used, for example, instead of the traditional ice pack to treat minor injuries. The panel is typical in that it is made up of first and second layers of a flexible material which are sealed together (layers 302 and 304 and border 306 - specification page 7, lines 7 and 8). Flow dividers or, in other words, "fences" 308 are included to direct fluid flow. There is a multiplicity of points of direct securance together of the layers to form a dot matrix of attachments. (Fig 2A, reference numeral 210 and page 3, line 29 et seq.)

The points of attachment or, in other words, dots should be spaced as close together as they can be to enable the panel to be as thin as possible for conforming to the complex shapes of various portions of the human body and avoiding warm spots due to relative stagnation of liquid flow. The problem is that increasing the number of dots reduces the area of the bulges (again see Fig. 3B) where the panel can make thermal contact. It is therefore important to space the dots as close together as possible while using a minimum number of dots. (Paragraph bridging pages 3 and 4, starting on line 25.)

One aspect of the instant invention is providing an organization of the attachments which will assure that the panel has a more constant thickness while yet providing a greater area of thermal contact by minimizing the number of such attachments (page 5, line 17 et seq.). This is accomplished by organizing the points of attachment into first and second imaginary lines (312 and 314, respectively) which connect dots to nearest dots with such first and second imaginary lines crossing at an angle falling in the range of between about 70 to 100 degrees, preferably 90 degrees (page 7, line 13 et seq. and Fig. 3a). This aspect of the invention is best illustrated by comparing Fig. 2B (the prior art) with Fig. 3C (the invention) on the same page of drawing. As can be seen, it is quite subtle.

As another aspect of the invention, the border seal include curvilinear ripples having ripple cycle lengths substantially shorter than the lengths of the seals. This reduces potential areas of stagnation of a flowing liquid for a more uniform temperature (page 5, line 34), rather than having the hard corners of the trapezoid and triangular shaped wrinkles of the prior art which decrease the laminar flow of the liquid (page 4, line 6 et seq.).

Issues

The issue in this case is a simple one. That is, it is whether or not the invention as defined in the claims is obvious under 35 USC 103(a) in view of the prior arrangement of panels of this nature described in the patent specification in light of the teachings of a prior art patent reference cited by the examiner. Specifically, it is whether or not the rejection under 35 USC 103(a) of claims 1, 3-6, 8-10, 12-20, and 22-24 as being unpatentable over applicant's prior art Fig. 2 in view of the Haugeneder patent reference number 5,080,166 should be sustained.

Grouping of Claims

The rejected claims should be grouped as follows:

I. 1, 4, 6, 10, 13, 15, 16, 18, 20, and 24.

II. 3, 5, 8, 9, 12, 14, 17, 19, 22, and 23.

Argument

NONANALOGOUS ART

The applicability of a reference as prior art is determined by whether the teachings of the reference is within the field of the inventor's endeavor or, alternatively, within a field reasonably pertinent to the particular problem addressed by the invention. *In re* Davis 10 U.S.P.Q. 2d 1175 (Fed. Cir. 1989). In other words, the determination of whether a reference is from a nonanalogous art is twofold - (1) first, it must be determined if the reference is within the field of the inventor's endeavor and, if not, (2) whether the reference is reasonably pertinent to the particular problem the inventor faced and solved with the invention.

In this case, there is no question but that applicant's prior art Fig. 2 is in the same field of endeavor as the invention. (In fact, the inventor in this case is also the inventor of the prior art Fig. 2 arrangement. The instant invention represents an improvement on this earlier device.)

The Haugeneder reference relates to nonanalogous art. It relates to a floor heater which is to be subjected to relatively high velocity water—the average velocity of the water in heating systems of its kind is 1.2 m/sec. (Haugeneder, column 1, line 48). Thus, Haugeneder is interested in preventing the heating water from "swooshing" from his inlet to his outlet.

The plate-shaped floor heater of Haugeneder is made up of two parallel plates 30 and 31 which are united at the sides to produce a cavity through which the heating medium flows (Haugeneder Fig. 3 column 4, line 23 et seq.). These plates have between them an array of spacing elements (posts) which also act as supporting elements between the plates "in order to be capable of withstanding the forces acting on the heating elements when used for floor heating" and to enable the plate-shaped heating elements to be "so stable as to withstand the static internal pressure produced by the heating medium." (Haugeneder, line 14 et seq.)

According to Haugeneder, one particular advantage of the post pattern illustrated is that it not only prevents a direct passage or free flow between the fluid connections (Haugeneder column 2, line 47 et seq.), it provides passages which promote the distribution of the water to the side areas of the heating element (Haugeneder column 3, lines 50 et seq. and column 4, line 12 et seq.). It is stated that the pattern of these spacing elements (posts) provides "optimum conditions of resistance and flow in the individual heating elements irrespective of their size." (Haugeneder column 3, line 43 et seq.)

In contrast, the problem facing applicant was to maximize the area of the bulges formed in the compliant heat exchange panel of the invention while at the same time spacing the dot connections as close together as possible in order to maintain the panel thin for conforming to the complex shapes of various parts of the human body. This is discussed in some detail on page 3 of applicant's specification in the paragraph starting on line 25. The result is applicant's preferred matrix of dot connections 325 shown in Fig. 3C of the drawing. The relatively subtle nature of the improvement in thin compliant panels of the invention can be seen by comparing the prior art of Fig. 2B on the same sheet of

drawing with the inventive arrangement shown in Fig. 3C. (Frankly, it is doubtful that in a Haugeneder arrangement one could distinguish between the Fig. 2B and Fig. 3C arrangements, since if the Fig. 2B pattern is employed with posts such posts could intercept the fast flow of water coming in the Haugeneder heater and provide channels or passageways directing it to the sides.) This subtle problem addressed by applicant is not the same problem addressed by Haugeneder. Thus, the Haugeneder patent certainly is not pertinent to the particular problem faced by the instant inventor, nor is it within the field of the invention. And, of course, this problem is neither recognized or faced in the Fig. 2 prior art arrangement of applicant.

All of the above has to do with the group I of claims. The claims of group II recite the curvilinear ripple construction of the border seal and fences (dividers) of applicant's arrangement. As is brought out in the paragraph starting at line 7 on page 4 of applicant's specification, the problem is that the hard corners provided by the trapezoidal and triangular shaped wrinkles in the past have decreased the laminar flow enabling thermal zones of warmer liquid to form. In contrast, the curvilinear ripples of the invention provide greater compliant and reduced areas of stagnation for a more uniform temperature (applicant's specification, page 4, line 32 et seq.). There is no disclosure whatsoever in the prior art as to such a curvilinear ripple arrangement, including in the prior art Fig. 2 of the instant specification or in the Haugeneder reference. In other words, Haugeneder is not relevant to this concept even if it is analogous.

Counsel has found it disconcerting that the examiner has completely ignored this feature. It could be that without stating so the examiner is construing the crossed straight lines of the prior art as being curvilinear ripples. If he is, he is technically wrong as well as providing a construction which is clearly

inconsistent with that of applicant's teachings and yet has not disclosed the same in a helpful manner.

THE KAST DECLARATION

This declaration is opinion evidence as to the obviousness of the invention in light of the prior art. The use of the statute 35 USC 103(a) to make sure the declarant was using the correct standard, confused the examiner into thinking that the declarant wished to take from the examiner the power of making the legal conclusion as to obviousness, rather than simply provide factual evidence as to obviousness. The declarant conclusion without reference to the statute that the subject matter as a whole would not have been obvious to persons having ordinary skill in the art to which the subject matter pertains, deserves to be given weight. While the declaration makes it clear that the declarant is not himself one of ordinary skill in the field, he also makes it clear that he is quite aware of this ordinary skill and can make this statement. He brings out that one of ordinary skill in the field of Fig. 2 would not look to the Haugeneder patent for a solution to the problem of providing a greater area of thermal contact in a compliant heat exchange panel having flexible sheets making up the cavity while assuring the panel maintains stable flow distribution characteristics when applied to a complex and dynamically changing three-dimensional form, such as an appendage of a human body.

There is no evidence whatsoever that the declarant has any interest in the outcome of this proceeding. He is an independent consultant. While at the moment there is no evidence in the record to support a position that he is strictly an independent consultant that does not work with the inventor in any fashion,

applicant would be quite pleased to obtain such a declaration if deemed necessary.

The final rejection states one cannot show nonobviousness by attacking references individually where the references are based on combinations of references. This is, it is respectfully submitted, a misreading of the declaration. Clearly the problem was not disclosed in the Fig. 2 prior art. This is why the declaration dealt with the question as to whether or not the problem was recognized and dealt with by the Haugeneder patent. It is also stated that "there is no requirement that any of the references must realize the same or any problem faced by applicant." Huh? There must be at least some suggestion in the prior art which would warrant one of ordinary skill in the field to make the changes necessary to adopt the invention. Haugeneder simply was not concerned with "bulges" providing thermal contact area.

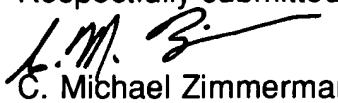
It is also stated in the final rejection that "All of Mr. Kast's statements hinge on Haugeneder not disclosing or teaching features or structures, which are already disclosed by Applicant's prior art Fig. 2." Mr. Kast makes no reference to features or structures which are in applicant's prior art Fig. 2. Perhaps the final rejection has in mind the various changes made to the claims by the amendment which submitted the declaration. These changes were made to clarify in the body of the claims that applicant wished protection on a compliant type heat exchange panel, not patent protection which would be sufficient to encompass the floor heater or similar structure as taught by the Haugeneder patent.

Appendix

See attached Claim Appendix.

It is respectfully requested for the reasons set forth in the Argument that the rejection of claims 1, 3-6, 8-10, 12-20, and 22-24 should be reversed. It would be a real tragedy if the patent system did not provide protection on this invention which is believed to be entitled to such protection under the law.

Respectfully submitted,



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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

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First Named Inventor	Elkins
Group Art Unit	3743
Examiner Name	Lee
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ENCLOSURES *(check all that apply)*

- ☐ Fee Transmittal Form
- ☒ Fee Attached — Credit Card
- ☐ Amendment / Response
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts/ Incomplete Application
  - ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Assignment Papers *(for an Application)*
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition Routing Slip (PTO/SB/69) and Accompanying Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Small Entity Statement
- ☐ Request for Refund
- ☐ After Allowance Communication to Group
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☒ Appeal Communication to Group (*Appeal Notice, Brief, Reply Brief*)
- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Additional Enclosure(s) *(please identify below)*

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

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